

We claim:

- Sub 1
a/c
1. A method of making micellar complexes comprising:
a) combining at least one cationic lipid with a sufficient amount of PEG derivative in an amount suitable to produce substantially homogeneous micellar lipids;
b) combining said substantially homogeneous micellar lipids and at least one biologically active molecule to form said micellar complexes.
2. A method of making micellar complexes according to claim 1, wherein said PEG derivative is complexed to a co-lipid prior to step a).
3. A method of making micellar complexes according to claim 1, wherein said biologically active molecule is DNA.
- Sub 2
a/c
4. A method of making micellar complexes according to claim 4, wherein said at least one cationic lipid and said DNA are present in a lipid:DNA ratio of 1:8.
5. A method of making micellar complexes according to claim 1, wherein the size distribution of a group of micellar complexes varies by less than 20% relative to the average size of a complex in said group of micellar complexes.

6. A method of making micellar complexes according to claim 1, further comprising the step of coating said micellar complexes with at least one hydrophobic species.

7. A method of making micellar complexes according to claim 1, further comprising the addition of an agent for targeting a mammalian cell.

8. A method of making micellar complexes according to claim 7, wherein said agent for targeting is selected from peptides containing a RGD, UDP/UTP, lactose, cyclic RGD peptide, penetratin, lectins, agents to target the LDL receptor, mannose-6-phosphate, HAV peptides, CNP-22 peptides and airway specific single chain antibodies.

9. A micellar complex produced according to claim 1.

10. A micellar complex produced according to claim 2.

11. A micellar complex according to claim 9, wherein said micellar complex further comprises an agent for targeting a mammalian cell.

12. A micellar complex according to claim 11, wherein said agent for targeting is selected from peptides containing a RGD, UDP/UTP, lactose, cyclic RGD peptide,

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penetratin, lectins, agents to target the LDL receptor, mannose-6-phosphate, HAV peptides, CNP-22 peptides and airway specific single chain antibodies.

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D 13. A micellar complex according to claim 9, wherein said micellar complex further comprises a hydrophobic species to coat said micellar complex.

14. A micellar complex according to claim 9, wherein said wherein said biologically active molecule is DNA.

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15. A micellar complex according to claim 14, wherein said at least one cationic lipid and said DNA are present in a lipid:DNA ratio of 1:8.

16. A micellar complex according to claim 9, wherein the size distribution of a group of micellar complexes varies by less than 20% relative to the average size of a complex in said group of micellar complexes.

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17. A method of delivering a biologically active molecule to a cell of a mammal comprising contacting said cell with a composition comprising a micellar complex, wherein said micellar complex comprises:

at least one cationic lipid;

at least one biologically active molecule; and

a least one PEG derivative.

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18. A method of delivering a biologically active molecule to a cell of a mammal according to claim 17, wherein said micellar complex further comprises a co-lipid.

19. A method of delivering a biologically active molecule to a cell of a mammal according to claim 17, wherein said at least one biologically active molecule is DNA.

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20. A method of delivering a biologically active molecule to a cell of a mammal according to claim 19, wherein said at least one cationic lipid and said DNA are present in a lipid:DNA ratio of 1:8.

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21. A method of delivering a biologically active molecule to a cell of a mammal according to claim 17, wherein said micellar complex further comprises a hydrophobic species to coat said micellar complex.

22. A method of delivering a biologically active molecule to a cell of a mammal according to claim 17, wherein said micellar complex further comprises an agent for targeting a mammalian cell.

23. A method of delivering a biologically active molecule to a cell of a mammal according to claim 22, wherein said agent for targeting is selected from peptides containing a RGD sequence, UDP/UTP, lactose, cyclic RGD peptide, penetratin, lectins,

agents to target the LDL receptor, mannose-6-phosphate, HAV peptides, CNP-22 peptides and airway specific single chain antibodies.

24. A method of delivering a biologically active molecule to a cell of a mammal according to claim 17, wherein said cell is an airway epithelial cell.

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25. A micellar complex comprising:
at least one cationic lipid;
at least one PEG derivative; and
at least one biologically active molecule;
wherein the size distribution of a group of micellar complexes comprising said micellar complex has a substantially homogeneous size distribution.

Sub 1
26. A micellar complex according to claim 25, wherein said micellar complex further comprises a co-lipid.

Sub 26
27. A micellar complex according to claim 25, wherein said substantially homogeneous size distribution of said group of micellar complexes varies by less than 20% relative to the average size of a complex in said group of micellar complexes.

28. A micellar complex according to claim 25, wherein said biologically active molecule is DNA.

29. A micellar complex according to claim 25, wherein said micellar complex further comprises an agent for targeting a mammalian cell.

30. A micellar complex according to claim 29, wherein said agent for targeting is selected from peptides containing a RGD sequence, UDP/UTP, lactose, cyclic RGD peptide, penetratin, lectins, agents to target the LDL receptor, mannose-6-phosphate, HAV peptides, CNP-22 peptides and airway specific single chain antibodies.